

Appl. No. 09/740,042
Amdt. Dated May 11, 2004
Reply to Office Action of May 4, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended) A method of displaying signals from real parameters obtained from monitoring a phenomenon, comprising:

while the phenomenon is being monitored producing multiple real analog signals in electronic form, the multiple real analog signals each having a standard characteristic and real parameters of different real values;

interpolating the analog signals to produce multiple virtual signals

assigning a separate visual distinction to at least several of the multiple virtual signals to produce multiple visually distinct signals; and

displaying the multiple visually distinct signals while superimposed with respect to one another.

Claim 2 (Cancelled)

Claim 3 (Currently Amended) The method of claim ¹~~2~~ further comprising digitalizing the analog real signals and the analog virtual signals ~~before~~ and then displaying the resulting digitalized signals in separate colors.

Claim 4 (Cancelled)

Claim 5 (Currently Amended) The method of claim 4² wherein the signals have different DC components, the method further comprising centering the ~~signal~~ signals by bringing the ~~signal~~ signals to a standard baseline.

Claim 6 (Original) The method of claim 3, comprising adjusting the real values of the real parameters.

Claim 7 (Currently Amended) The method of claim 6, wherein the real parameters are have real phase angle and real amplitude for each real signal.

Claim 8 (Original) The method of claim 7, wherein the phenomenon is a detected eddy current.

Claim 9 (Original) The method of claim 8, wherein the eddy current is an eddy current induced in a metallic object and wherein there is an anomaly in the form of a defect in the metallic object.

Claim 10 (Original) The method of claim 9, wherein the metallic object is a tube and the anomaly is a defect in the tube.

Claim 11 (Original) The method of claim 10, wherein the multiple real signals are produced with a differential probe, the method further including converting the multiple real and virtual signals to lissajous transforms generated by voltage vector sweeps and phase angles when the multiple signals are displayed.

Claim 12 (Original) The method of claim 11, wherein the anomaly is one occurring in a group of anomalies, comprising through holes, interior pits, exterior pits,

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magnetic inclusions, dents and roll stops, each of which has distinctive display of the multiple colored signals.

Claim 13 (Currently Amended) The method of claim 1, comprising:
assigning a color to each signal to produce colored signals after interpolating the real signal signals to create the virtual signals, wherein the colored signals are in channels of increasing frequency and wherein the assigned colors are of increasing visible frequencies from a lowest visible frequency to a highest visible frequency.

Claim 14 (Original) The method of claim 13, wherein the display includes a waveform created by writing the lower visible frequency color first and superimposing a higher visible frequency color thereon in order from lower visible frequencies to higher visible frequencies.

Claim 15 (Original) The method of claim 14, wherein the display includes a waveform created by writing higher visible frequency colors in an order from higher visible frequencies to lower visible frequencies with a color being assigned to the highest frequency signal which contrasts with the highest visible frequency.

Claim 16 (Original) The method of claim 15, wherein the display includes a plot of only the end points of the waveforms.

Claim 17 (Original) The method of claim 14, wherein the display includes a plot of only the end points of the waveforms.

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Claim 18 (New) The method of claim 15 wherein the waveforms of the display are continuous curves.

Claim 19 (New) The method of claim 14 wherein the waveforms of the display are continuous curves.